An Assessment of Army R&D Requirements for Logistics from the Sea

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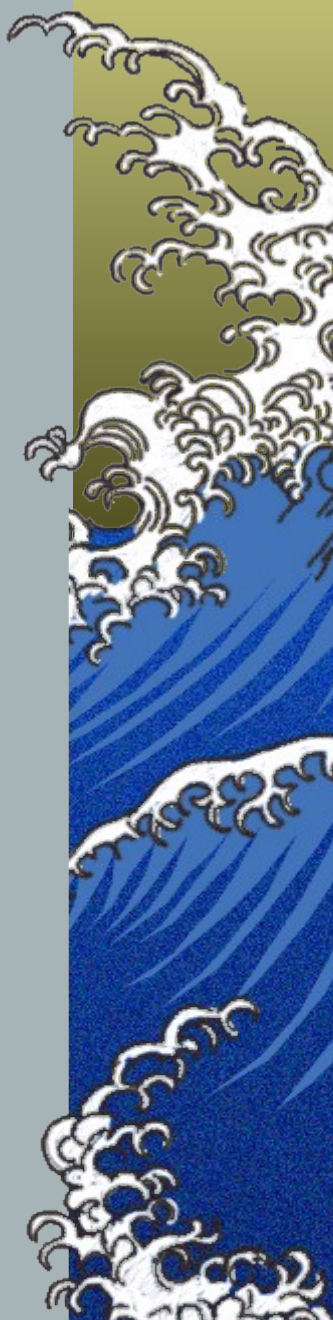
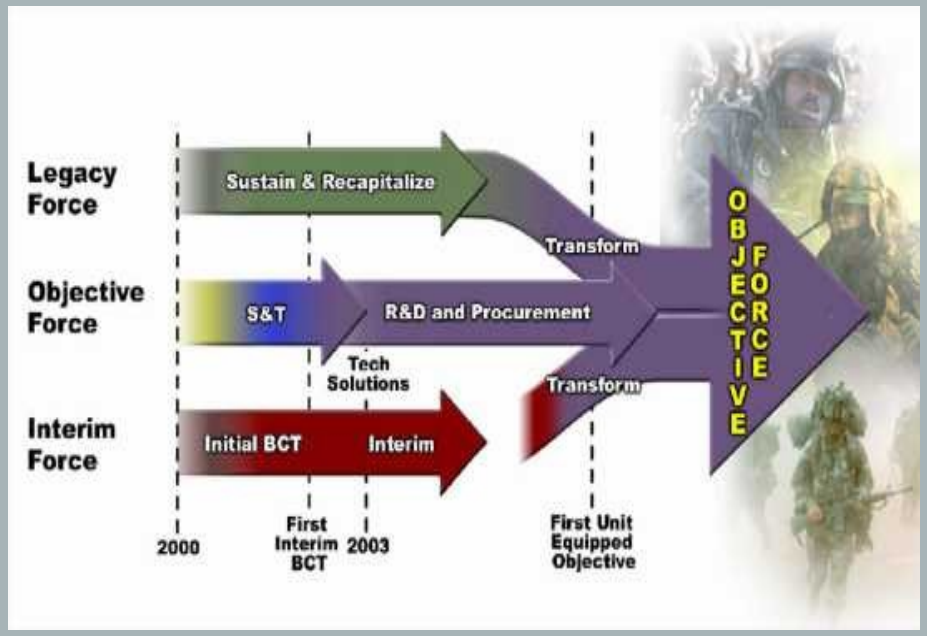


For the Army Everything Changed in Autumn 2000

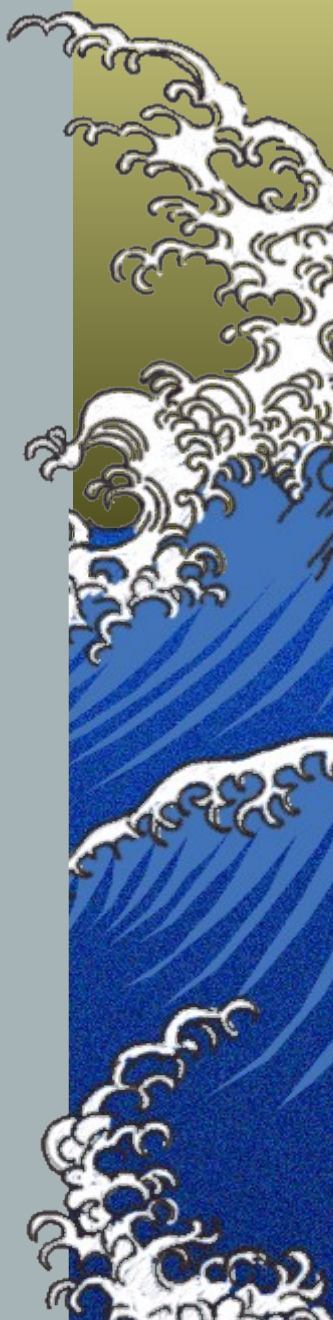
- *1 Brigade in 96 hours*
- *1 Division in 120 hours*
- *5 Divisions in 30 Days*

Strategic Logistics



Outline

- *Concept Development*
- *Concept Validation*
- *Development of New Systems*
- *Testing/Integration of New System*



Concept Development

- *Pixie Dust is a Very Limited Commodity*
- *DPG No Longer Requires SS3 JLOTS by 2005*

Links and Nodes in Bare-Beach JLOTS

	Link	Offshore Node	JLOTS Link	Coastal Node	JLOTS Link	Inland Node
Transportation System Element	CONUS to Theater	Transfer to Lighter	JLOTS Link Offshore to Coast	Transfer to On-land Transporters	Beach to TAA	Staging for TAA
Systems	Deep-Draft Sealift Ship	Cranes RRDF's Ramps RIBS etc.	LCU's LSV's Causeway Ferries etc..	Causeways Piers RTCH's Cranes, etc.	Causeways Piers RTCH's Cranes, etc.	———
Operational Problems	LOW	Very High	Moderate To High	Very High	Moderate	———
R & D Obstacles	LOW	High	High	High	High	Moderate

Links and Nodes with TSV – Based Systems

	Link	Node	Link	Node
Transportation System Element	**CONUS to ISB**	**ISB**	**ISB to Coast**	**Port Facility at Coast (TAA)**
Systems	**Deep-Draft Sealift Ship**	**Existing Large Ports**	**TSV (HSV)**	**Enhanced or New Ports**
Operational Problems	**Low**	**Low**	**Low**	**Moderate**
R & D Obstacles	**Low**	**Low**	**Low**	**High**

Concept Development R & D Needs

- *System Metrics*
  - *Performance (Potential Throughout Rates)*
  - *Robustness (Redundancy, Vulnerability, Universality*
  - *Cost (Per Unit)*
  - *Force Structure Impact*
  - *Flexibility (One Size Doesn't Fit All)*
  - *Sustainability (Without Pixie Dust)*
- *Review Panel*
  - Top Quality, *High Level Government R & D Membe*
  - *External (Non-commercial) Members*
  - *Military Members*

Concept Validation

"Measure Twice – Cut Once"

attle Labs Provide the Yardsticks

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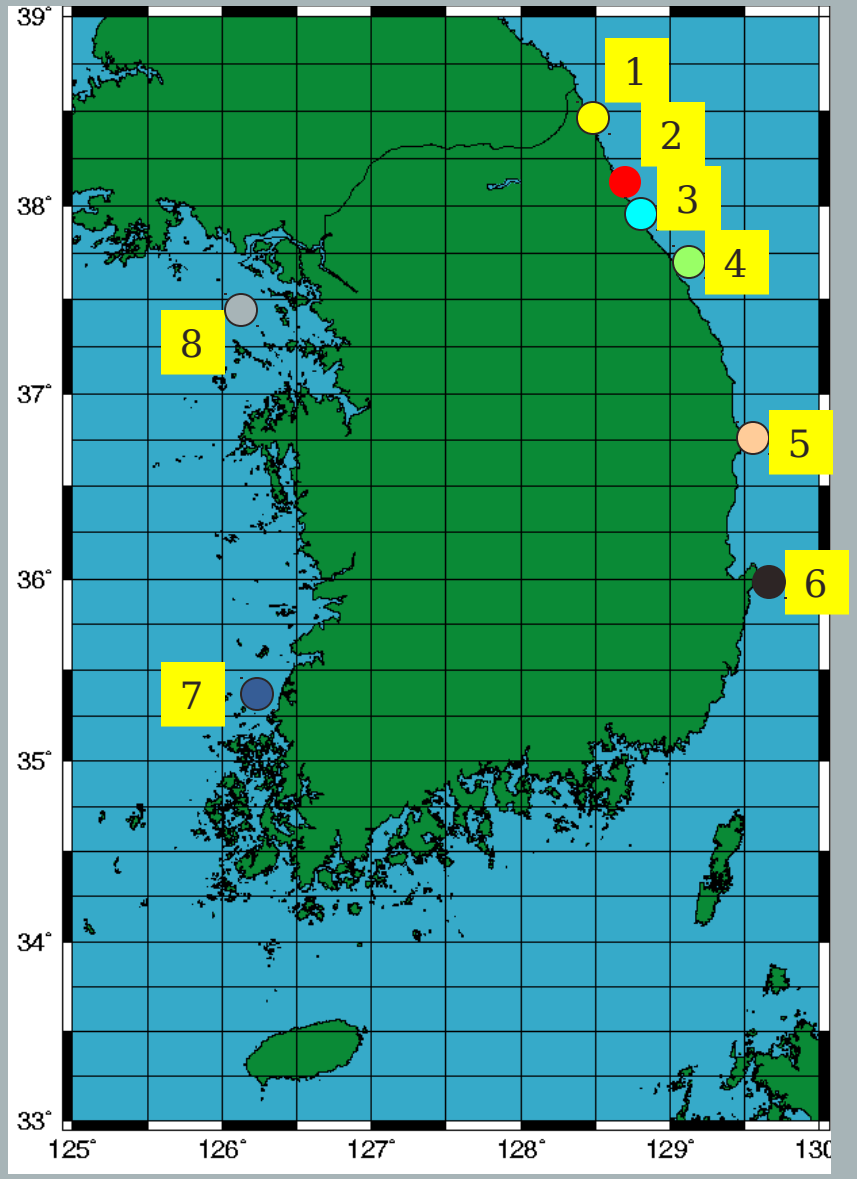
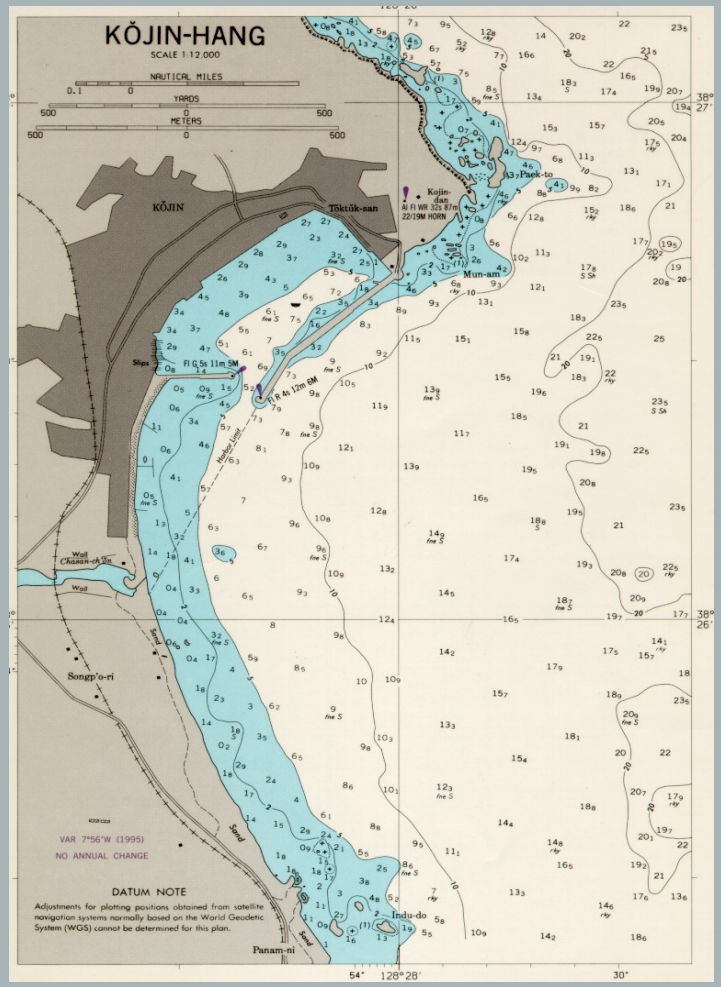


- 1 KOJIN-HANG
- 2 SOKCH'O-HANG and TAEP'O-HANG
- 3 CHUMUNJIN-HANG
- 4 KANGNUNG
- 5A HUP'O-HANG
- 5B HUP'O-HANG
- 6 YANGP'O-HANG
- 7 KYEMA-HANG
- 8 KANGHWA-DO

KOJIN-HANG



LAT: 38° 24’ N
LONG: 128° 27’ E

ADVANTAGES

- *Good approach*
- *Good anchorages inside and outside harbor*
- *Navigational aids*
- *Lighted entrance*
- *Adequate depth and turning basin*
- *Protected harbor*
- *Breakwaters*
- *Quay wall*
- *Road system and rail access*

DISADVANTAGES

- *Close proximity to North Korea (10 km)*
- *No ramps or piers*
- *No apparent storage facilities*
- *Limited staging area*
- *No apparent cargo handling equipment*

ESTIMATED SUPPORT REQUIREMENTS

- *Build ramp(s), pier, and staging area*

SURVEY REQUIREMENTS

- *Staging area*
- *Quality rail/road network*
- *Survey tidal range*
- *Sea and wind condition forecasts*

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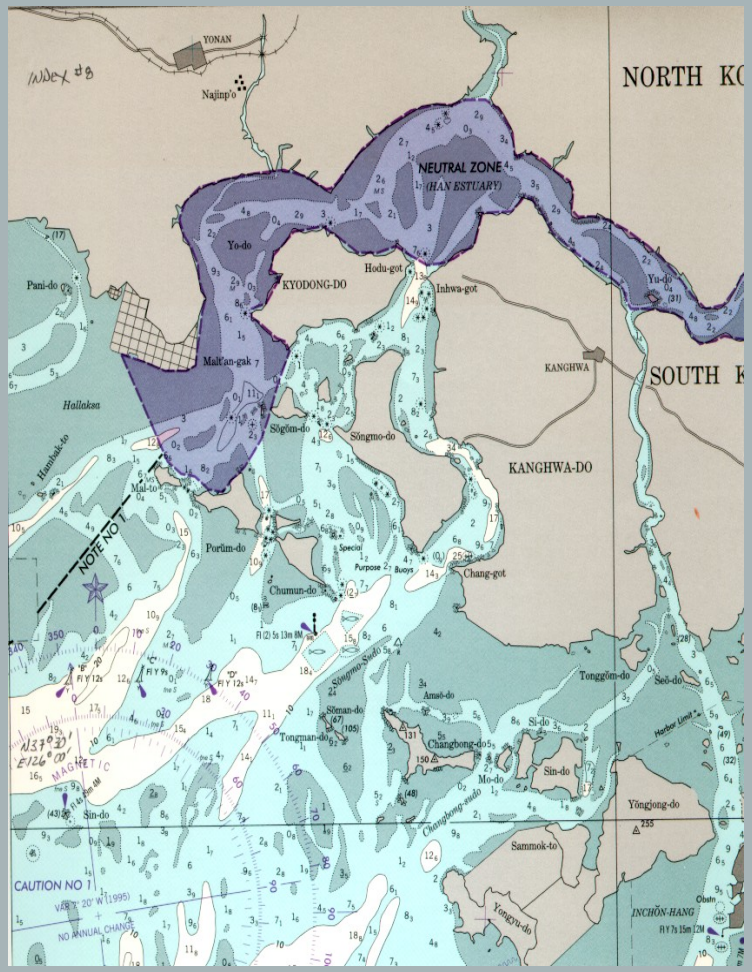
KANGHWA-DO



LAT: 37° 30’ N
LONG: 126° 00’ E

ADVANTAGES

- Near DMZ (10 km)
- Adequate harbor and turning basin
- Apparent beaching area
- Road access
- Approach navigational aids

DISADVANTAGES

- Near DMZ
- No facilities

ESTIMATED SUPPORT REQUIREMENTS

- Build ramp(s), piers, facilities, and staging area

SURVEY REQUIREMENTS

- Total survey required for suitability
- May be useable for J/LOTS only

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Impact of RPE on Force Closure

Closure


KOREA
Qinhuangdao
Hamhŭng
Dandong
P'yŏngyang
Sea of Japan
(East Sea)
Akita
Dalian
Sokch'o
Niigata
Yantai
Haeju
Seoul
Nagano
Yŏngju
Taejŏn
Maebashi
Taegu
Qingdao
Matsue
Kyōto
Chŏnju
Okayama
Nagoya
Yellow
Sea
SOUTH
KOREA
Pusan
Hiroshima
Wakayama
Yancheng
Cheju
Kōchi
Nagasaki
Kumamoto
Shanghai
Kagoshima
KYŪSHŪ
JAPAN
Hangzhou
East China Sea
Ningbo
Wenzhou
RYUKYU
ISLANDS
Okinawa
Minamidaitō
Taipei

Impact of RPE on Force Closure

Table 5: ***IBCT Closure Time, days***

	Case 1	**Case 2**	**Case 3**
Existing	**4.7**	**5.2**	**10.3**
Enhanced	**3.3**	**3.6**	**6.2**

Impact of RPE on Force Closure

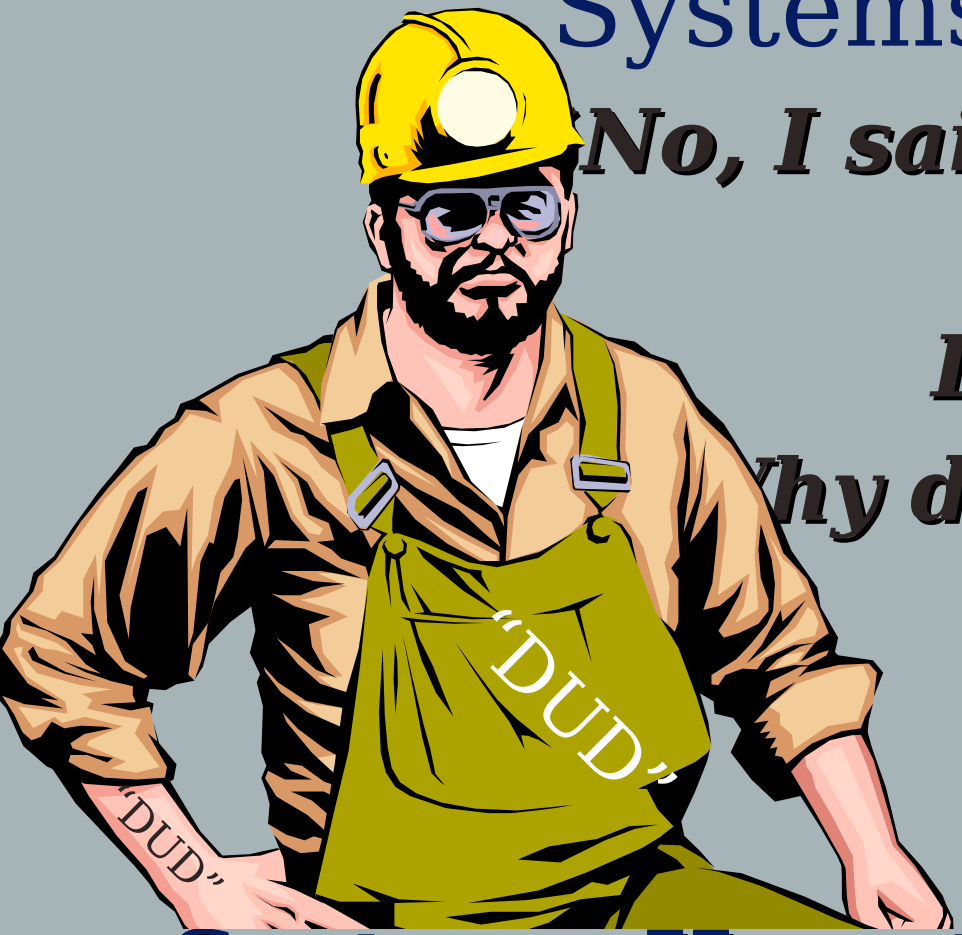
Table 6: ***IDIV Closure Time, days***

	Case 1	Case 2	Case 3
Existing	**21.3**	**21.7**	**35.4**
Enhanced	**6.9**	**9.6**	**11.6**

Concept Validation R&D Needs

- *Accurate Information Base for Decision Making*
  - Ports Study
- *Integrated Throughput Models*
  - Constructive simulations
  - Evaluate Alternatives Objectively
- *Dedicated Leadership in Battle Labs*
  - Changing Roles Requires Refocusing of Efforts

Development of New Systems



"No, I said my nickname was DUDE , Why do you ask??"

Systems Have to Fit With Each Other and Into an Integrated System Concept

Revised R&D Paradigm for Deployment

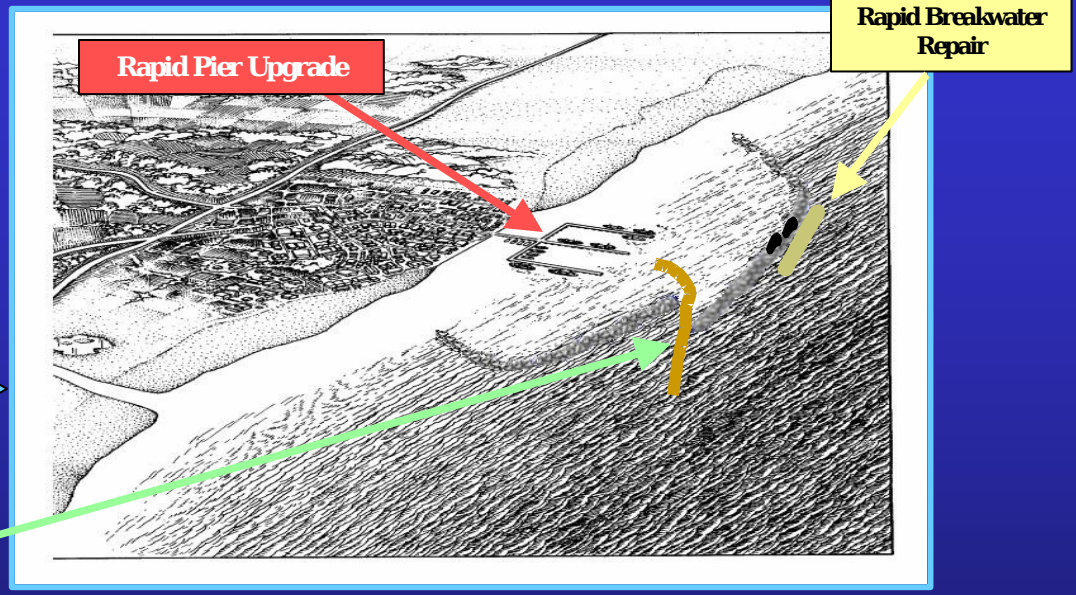
- *Sea Lift Problems Have Traditionally Occurred at Nodes (Normandy, Vietnam, and Somalia)*
- *Majority of R&D and Procurement Budget is Spent on Links*
- *Do New Systems Remove All Potential Nodal Problems*
- *If Not, Seek Some Balance In Investments Before the "Whoops" Stage*

New Systems R&D Needs

- *Information for TSV/HSV "specs"*
- *New Technologies for Rapidly Enhancing or Creating Small Ports*
- *Active Systems Integration Group*
  - R&D Scheduling Must Fit Into "Fielding" Scheduling

SPOD Enhancements/Alternatives for the Objective Force (SEA-OF)

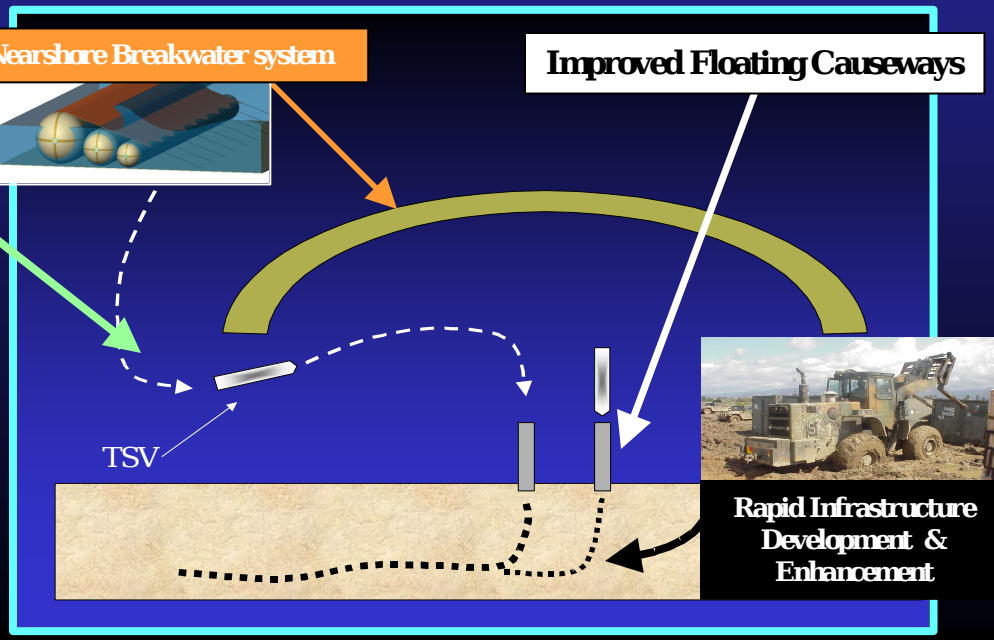
- High Speed Sealift combined with Rapid SEA-OF Enhancement Capabilities
- Studies show that throughput rates would be comparable to world class ports
- SEA-OF allows utilization of existing commercially developed high speed sealift vessels



Existing Small Port

Expedient Dredging

Initially Bare Beach Port



Pacing Technologies:

- Nearshore Breakwater Technology
- Rapid Port Upgrade/Construction Technology
- RIDE Technology Design development

Questions???